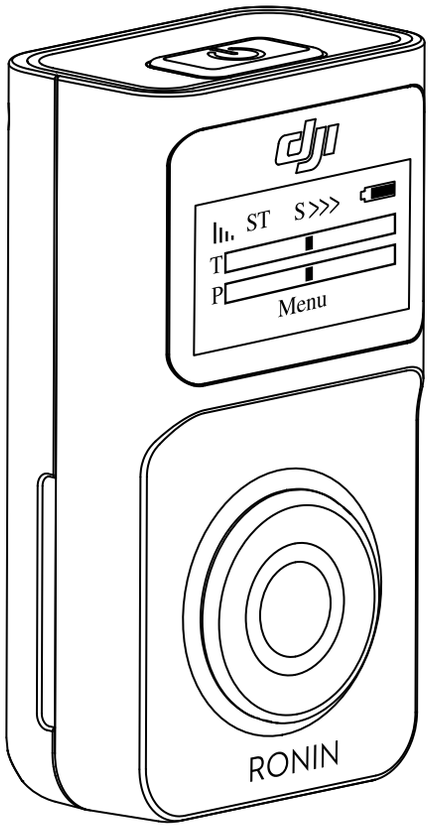
RONIN THUMB CONTROLLER

User Manual

V1.0 2015.6



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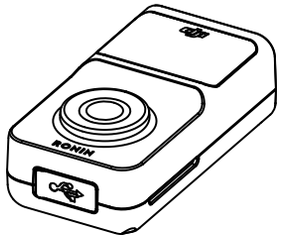
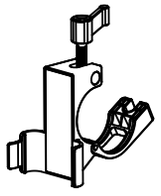
In the Box

Check to ensure that all of the following items are included in the package. If any items are missing, contact DJI or your local dealer.

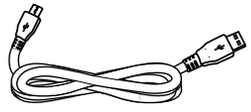
The following items are included with the Thumb Controller for the Ronin-M:



Thumb Controller×1



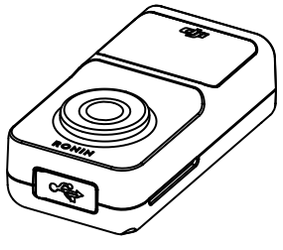
Quick Release Accessory Mount×1



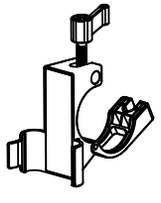
Micro-USB Cable×1

Step-down Adapter×1

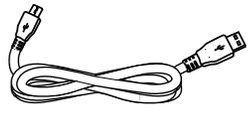
The following items are included with the Thumb Controller for the Ronin:



Thumb Controller×1

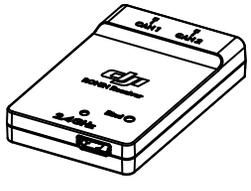


Quick Release Accessory Mount×1

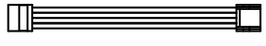


Micro-USB Cable×1

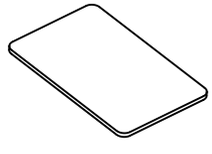
Step-down Adapter×1



External Receiver ×1



4-Pin Cable×1



Adhesive Tape×1

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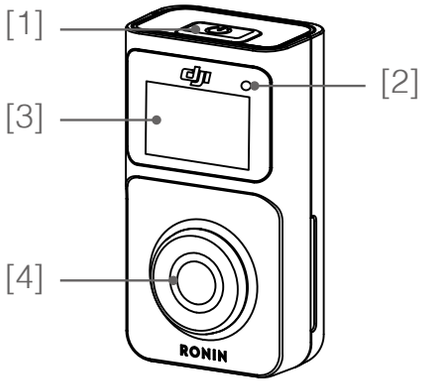
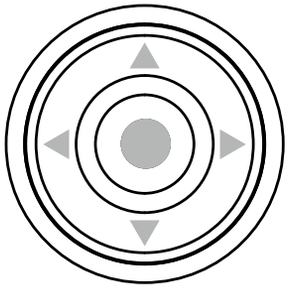
Introduction

The Thumb Controller is designed specifically for DJI Ronin series handheld gimbals. It provides a simple, intuitive interface for controlling the gimbal's pan, tilt, and roll motions. The pressure-sensative thumb stick and the easy-to-read OLED display give Ronin users more control than ever before.
The Thumb Controller communicates with the Ronin-M via a preinstalled internal receiver. An external receiver is needed when the Thumb Controller is used with the Ronin.

Thumb Controller





[1] Power Button
Press and hold the power button to turn on/off the Thumb Controller.

[2] Status Indicator
Indicates the status of the Thumb Controller.

[3] OLED Display
Displays the menu of the Thumb Controller.

[4] Pressure-Sensative Thumb Stick
Transmits the user's input to the pressure sensor.

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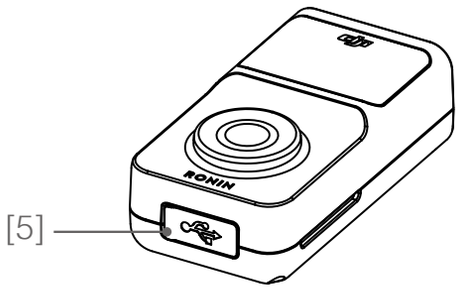
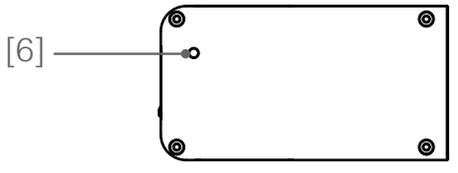
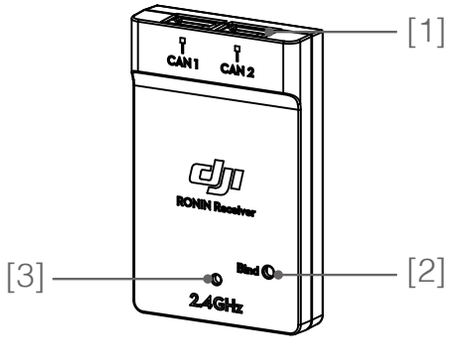


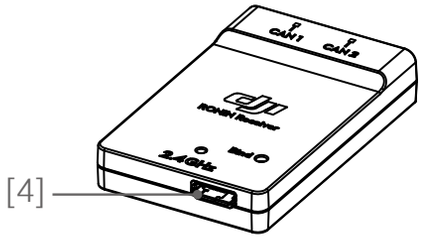


[5] Micro-USB Port
For charging the Thumb Controller and upgrading its firmware.

[6] Override Button
Allows a reset of the Thumb Controller following a failed update process.

External Receiver (For Ronin Only)





[1] CAN Ports
Connects the receiver to the Ronin.

[2] Bind Button
Connects the Thumb Controller to the Ronin.

[3] LED Indicator
Indicates the status of the receiver.

[4] Micro-USB Port
For upgrading the firmware.

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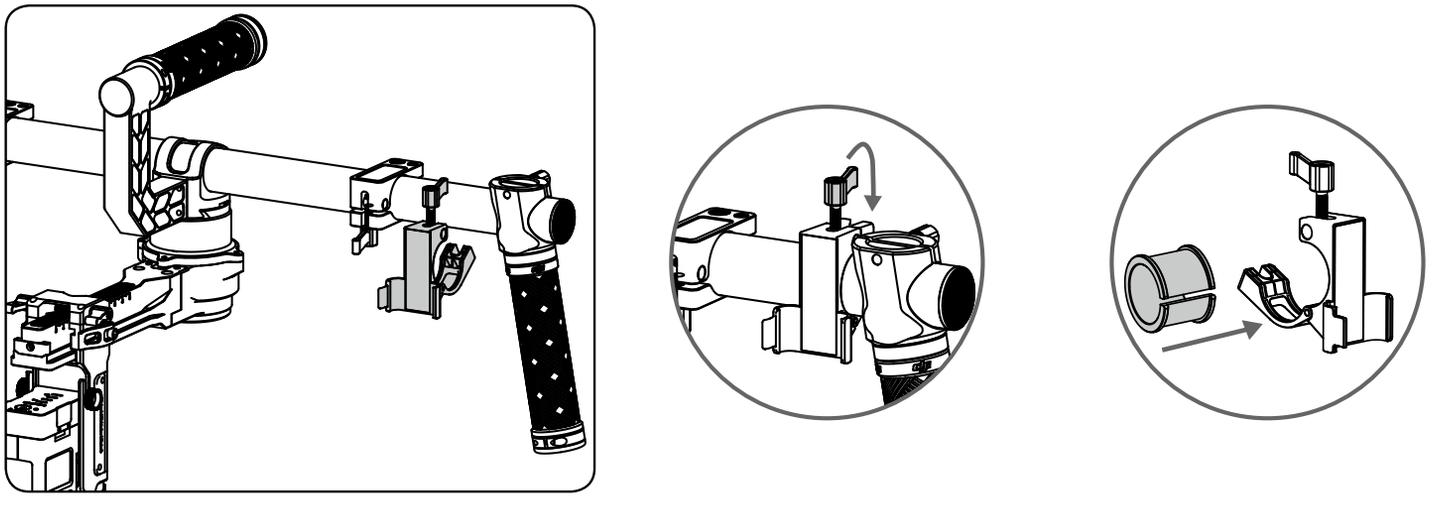
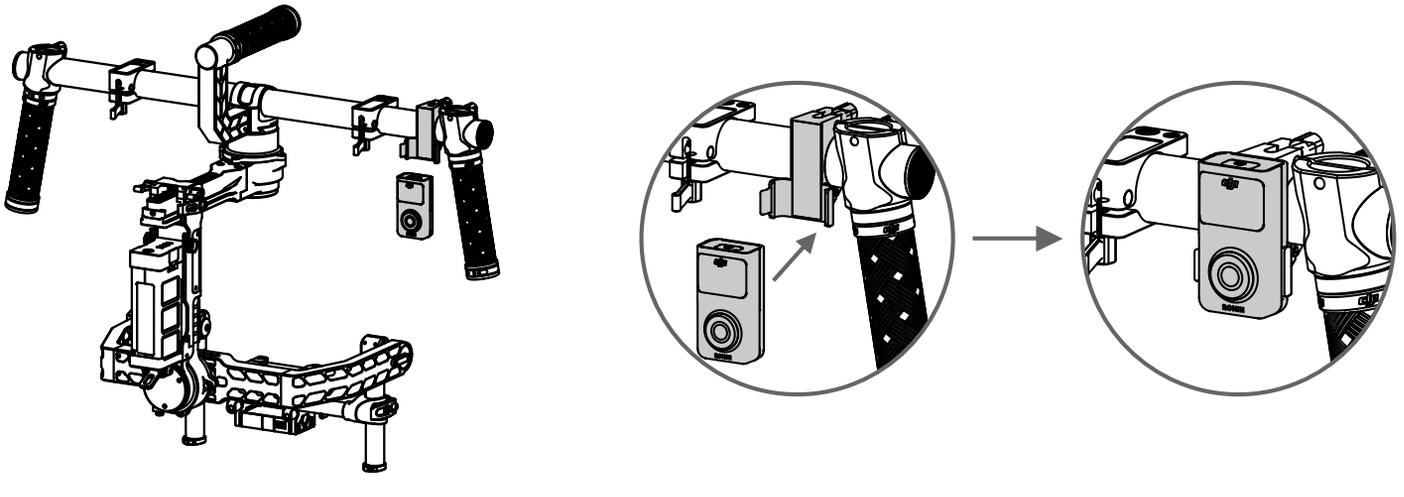
Installation

Installing the Thumb Controller

1. Install the quick-release accessory mount by clamping it around the handlebar of the Ronin and tightening the screw. Only use the step-down adapter when installing onto a Ronin-M.



2. Clip the Thumb Controller into the quick-release accessory mount and ensure that it is secure.



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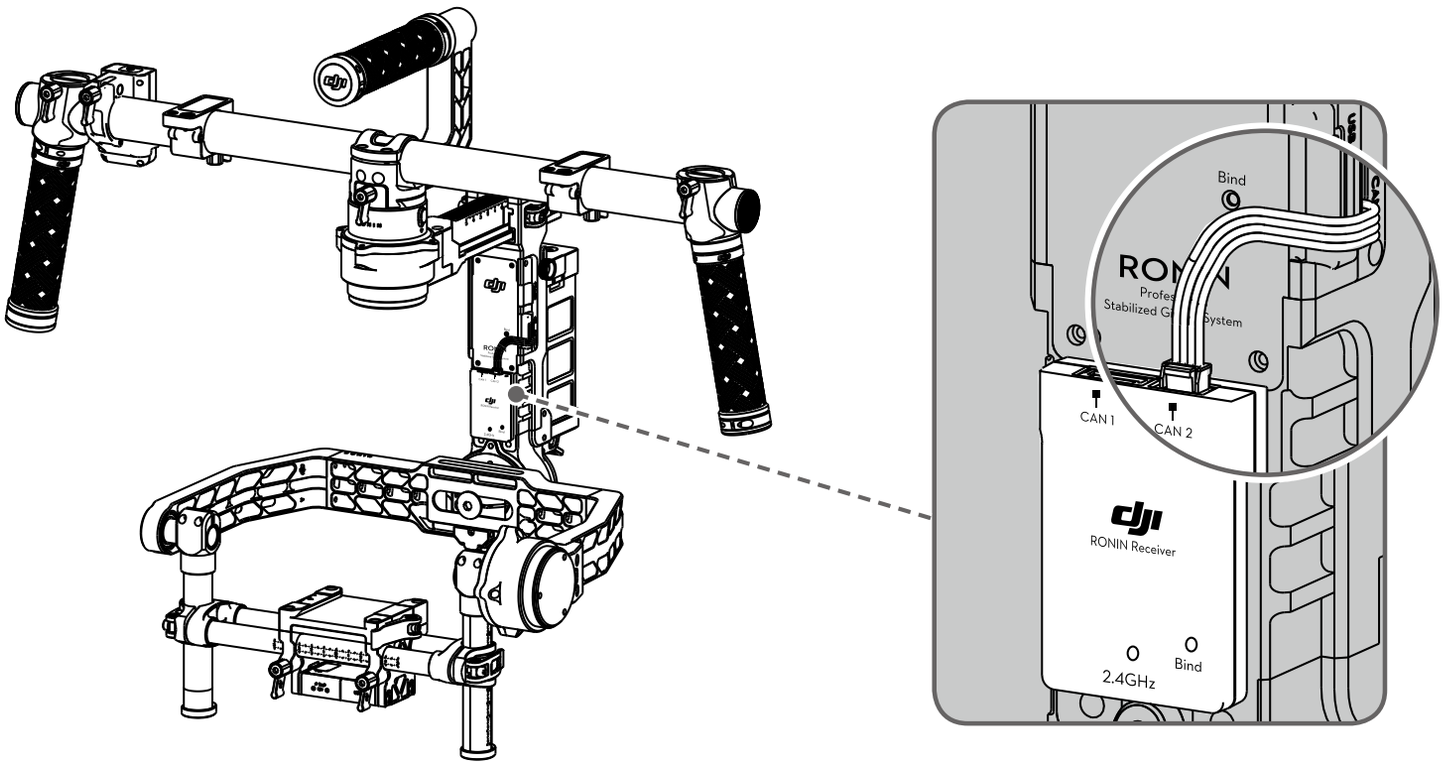
Installing the External Receiver (For Ronin Only)

1. Use the 4-pin cable to connect the CAN port on the Ronin to the CAN 1 or CAN 2 port on the receiver.
2. Use the provided adhesive tape to secure the receiver on the Ronin.



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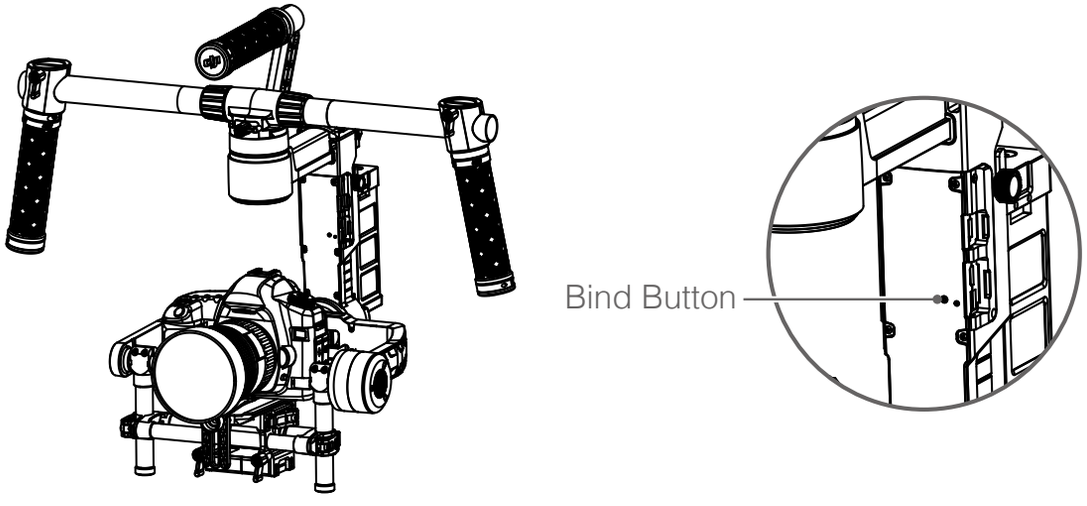
Binding the Thumb Controller to the Gimbal

Binding to the Ronin-M

1. Turn on the Ronin-M.
2. Press the Ronin-M's Bind Button (shown below) one time. The LED indicator on the Ronin-M will rapidly blink green.
3. Turn on the Thumb Controller. If the LED indicator on the Ronin-M and the LED indicator on the Thumb Controller both glow solid green, they have been successfully connected.



Binding to the Ronin

1. Turn on the Ronin.
2. Press the Bind Button on the receiver one time. The LED indicator on the receiver will rapidly blink green.
3. Turn on the Thumb Controller. If the LED indicator on the receiver and the LED indicator on the Thumb Controller both glow solid green, they have been successfully connected.

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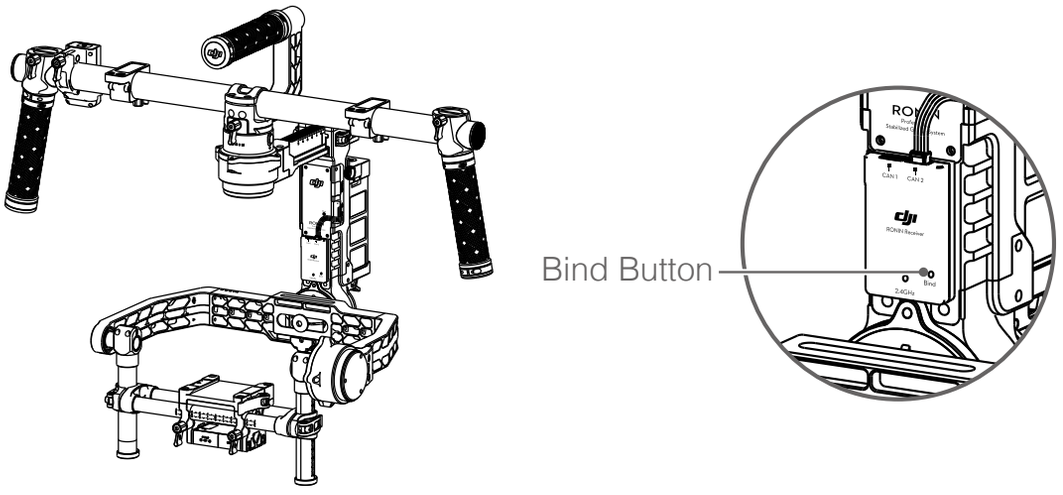

⚠ The binding process only needs to be performed one time, unless the bind button is pressed or the Ronin/Ronin-M needs to be connected to another Thumb Controller.

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Indicator Status

Thumb Controller LED Indicator Status	Description
Ⓡ —— Solid Red	The Thumb Controller is being updated.
Ⓡ ····· Blinking Red	The Thumb Controller is not connected to the receiver.
Ⓖ —— Solid Green	The Thumb Controller is connected to the receiver.
Ⓖ ····· Blinking Green	The update process is complete.
Ⓨ —— Solid Yellow	The Thumb Controller is fully charged.

External Receiver LED Indicator Status	Description
Ⓡ —— Solid Red	The receiver is being updated.
Ⓡ ····· Blinking Red	The Thumb Controller is not connected to the receiver.
Ⓖ —— Solid Green	The Thumb Controller is connected to the receiver.
Ⓖ ····· Blinking Green	The update process is complete.
Ⓖ ····· Blinking Green Quickly	Binding.

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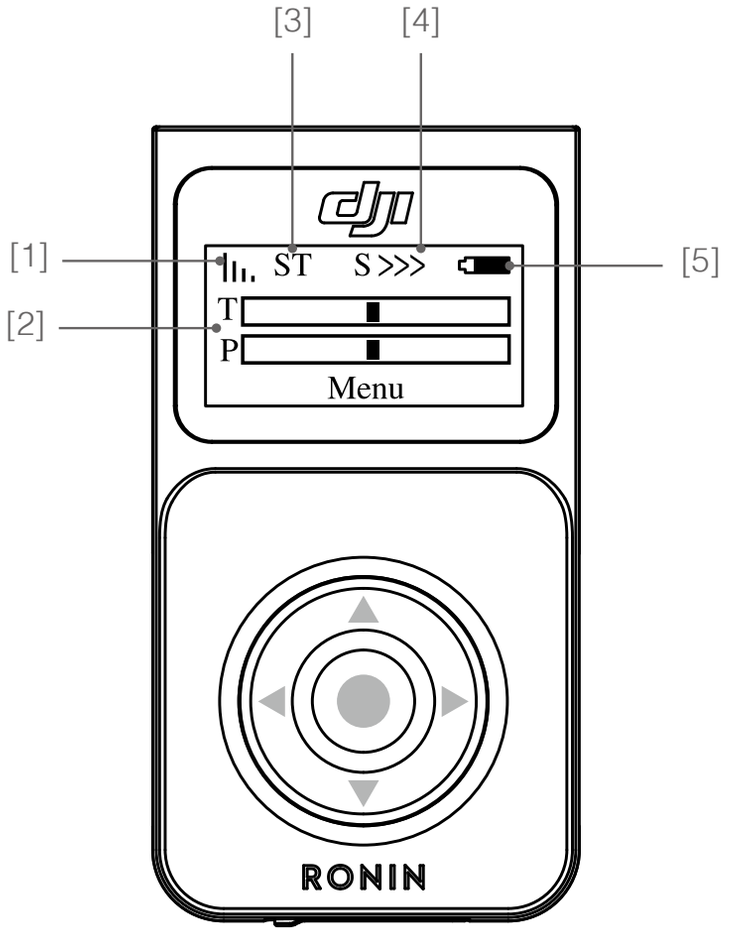
Using the Thumb Controller

The OLED screen displays information about the Thumb Controller and gimbal when it is turned on. The main user interface of the device is shown below:



[1] Signal Strength

[2] Pan/Tilt/Roll Axis Position

[3] SmoothTrack Mode

[4] SmoothTrack Follow Speed

[5] Battery Level

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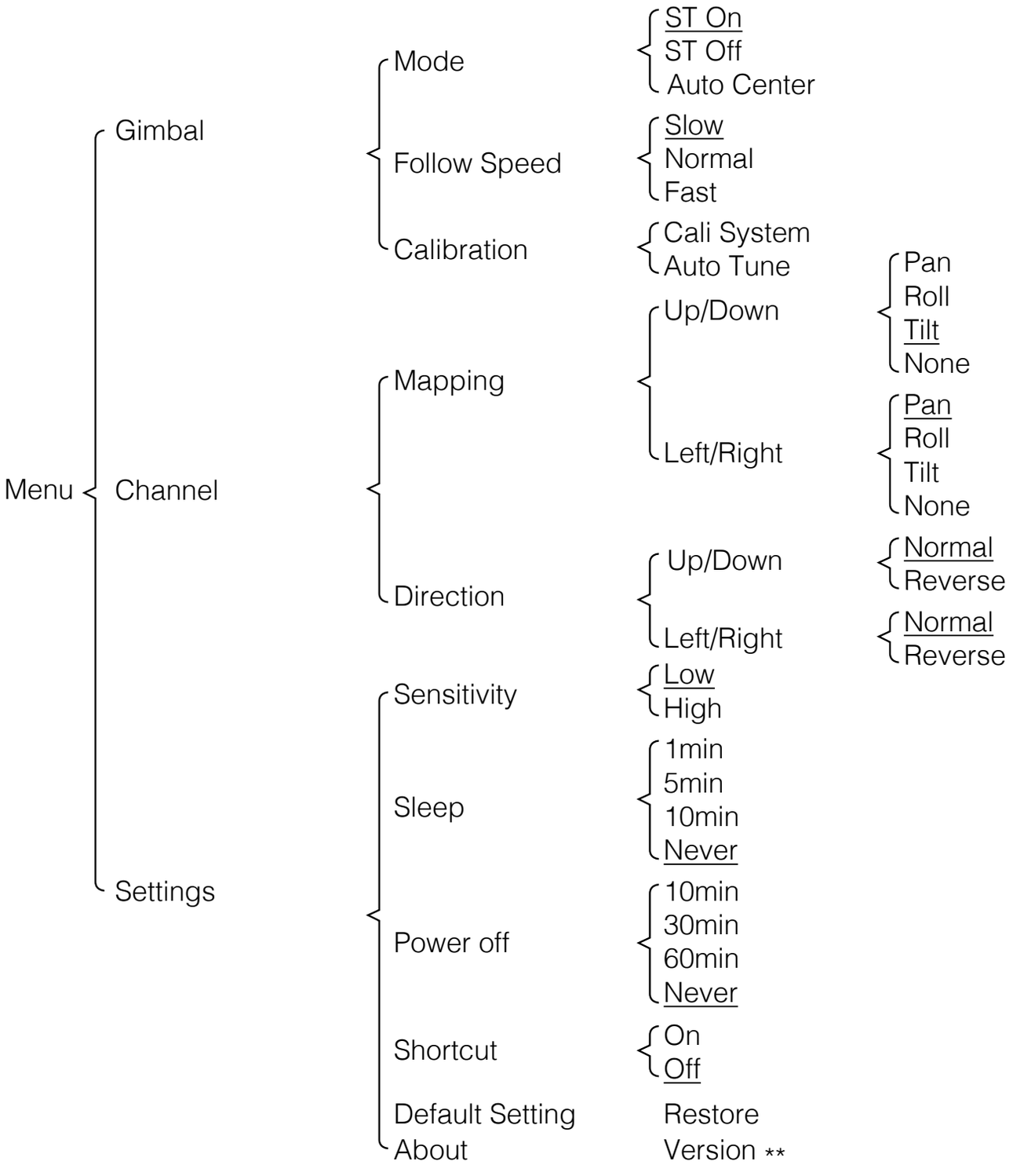
To enter the Main Menu, press and hold the center of the thumb stick. The default settings are underlined on the diagram below.



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The Main Menu contains three tabs: Gimbal, Channel and Settings.
Press up/down on the thumb stick to select an item. Press right to view and select options, and press left to return to the Main Menu.

Gimbal

Mode

ST Off: SmoothTrack is off. The Thumb Controller is free to control the pan axis. The gimbal will stop and hold the last position determined by the pan axis control stick, without applying SmoothTrack.

ST On: SmoothTrack is on. The Thumb Controller is free to control the pan axis. The gimbal will stop and hold the last position determined by the pan axis control stick, while applying SmoothTrack.

Auto Center: SmoothTrack is on. The gimbal will apply SmoothTrack when reorienting and resetting the pan angle to the forward-facing direction after the pan axis control stick is released.

Follow Speed

The Follow Speed tab allows you to select the SmoothTrack speed.
There are 3 possible speeds: Fast, Normal, and Slow. The value of each speed can be adjusted in the DJI Assistant app or the PC/MAC Assistant.

Calibration

“Cali System” should be used if there is perceptible drift on any axis. The calibration procedure should take approximately 90 seconds to complete.
Selecting “Auto Tune” will automatically adjust each motor’s stiffness settings to achieve an optimal balance. This process should take approximately 20

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seconds to complete.
The gimbal cannot be controlled by the Thumb Controller or the remote controller during calibration. Do not touch or move the gimbal during either process.

Channel

Mapping

Allows you to assign control of the pan, tilt, or roll motion of the gimbal to the up/down or left/right input of the thumb stick.

⚠
- By default, the up/down input on the thumb stick controls the tilt axis movement of the gimbal and the left/right input on the thumb stick controls the pan axis movement of the gimbal.
- If you reassign the control input of either axis, only the most recent assignment will be valid.

Direction

Under the ‘Normal’ setting, the gimbal moves in the same direction of the input of the thumb stick. (Default settings: up/down tilt, left/right pan)
Selecting ‘Reverse’ for the up/down or left/right input will reverse the controls respectively.

Settings

Sensitivity

There are two sensitivity settings for the Thumb Controller: High/Low.

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Sleep

If the Thumb Controller has been idle for longer than the specified amount of time, the OLED display will be turned off.

Power Off

If the Thumb Controller has been idle for longer than the specified amount of time, it will be turned off.

Shortcut

Enabling this allows you to switch SmoothTrack modes and change the SmoothTrack speed quickly by double tapping the thumb stick.

On the Home Screen:
Double tap right to select ST (SmoothTrack) Off. Double tap left to select ST (SmoothTrack) On. The “ST” icon will appear. Double tap down to select Auto Center. The “STA” icon will appear. Double tap up to change the Follow Speed. The icons “S>>>”, “S>>” and “S>” represent Fast, Normal, and Slow respectively.

Default Settings

Restores all settings to the factory defaults.

About

Displays the firmware version that is currently installed on the Thumb Controller.

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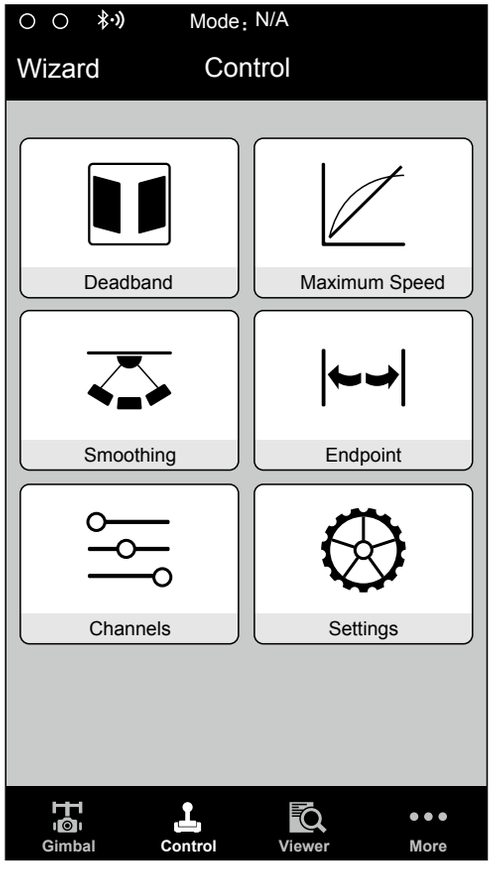
DJI Assistant App Tuning

You can adjust various parameters in the DJI Assistant app.
Turn on the Thumb Controller and the gimbal, then launch the DJI Assistant app.
To meet your specific requirements, you can also access advanced functions through the Assistant app. In the Control Menu, you can adjust the Deadband, Maximum Speed, Smoothing, and Controller Priority.



- Controller Priority: If both the Thumb Controller and a remote controller simultaneously send control signals to the gimbal, the input from the selected controller will take priority.
- Refer to the Ronin/Ronin-M User Manual for more details.

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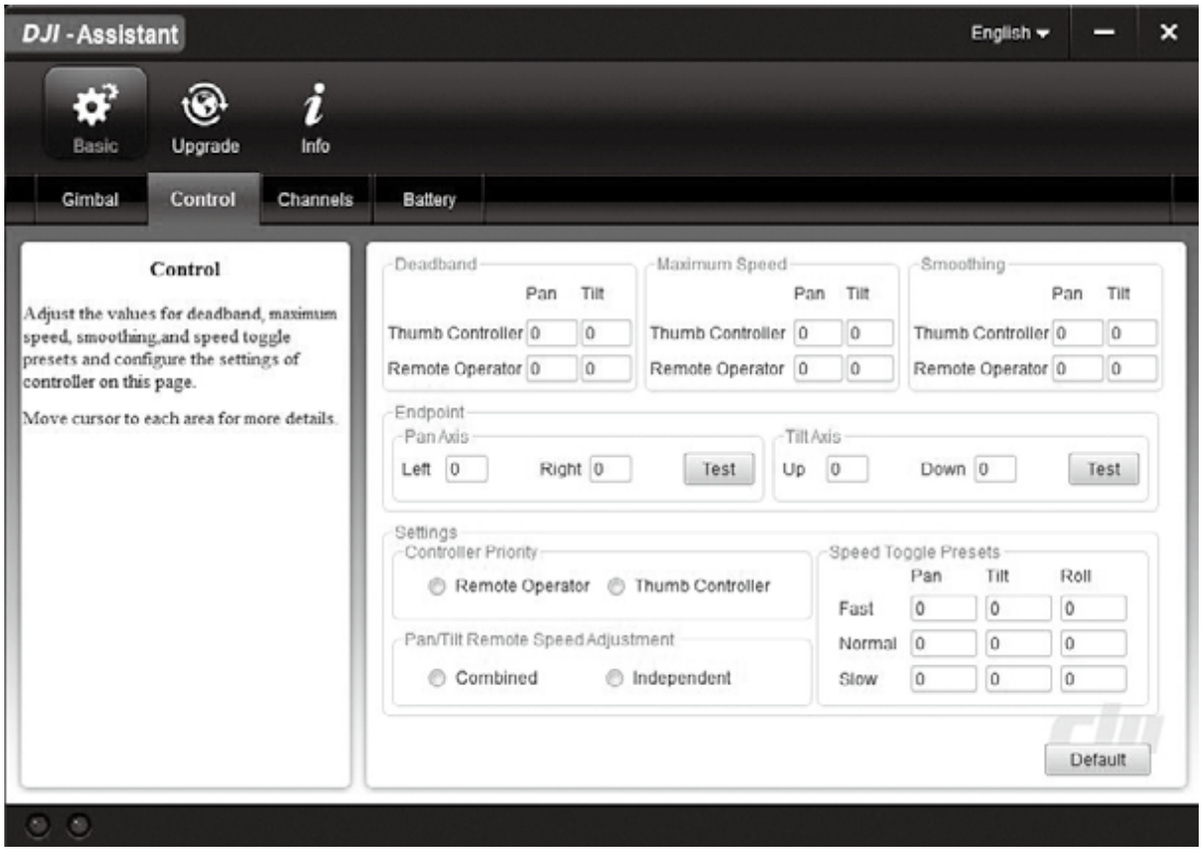
DJI PC/MAC Assistant Tuning

The DJI PC/MAC Assistant allows you to tune the Thumb Controller and update its firmware.

The tuning procedures offered through the DJI Assistant app are the same as those offered through the DJI PC/MAC Assistant. There is no need to adjust the settings in both applications.

The DJI Assistant app and the PC/MAC Assistant program cannot be connected to the Thumb Controller at the same time. If you are running the Assistant app on your mobile device, do not connect the Micro-USB cable to your computer.

Settings



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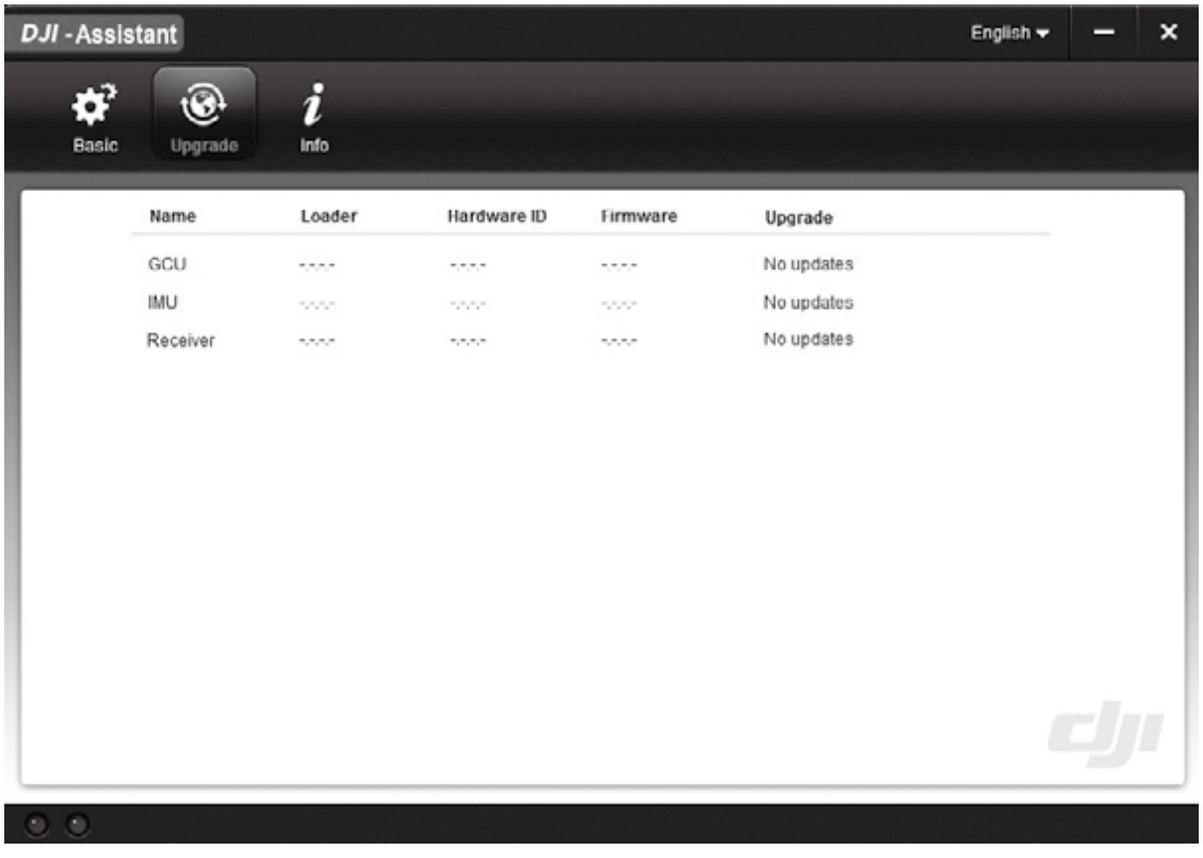
In the Control Menu, you can adjust the Deadband, Maximum Speed, Smoothing, and Controller Priority.

Updating the Thumb Controller and the Receiver



You can find the latest firmware version information on this page and update the firmware by following the steps below:

1. Use the Micro-USB cable to connect the Thumb Controller to your computer, then wait until the indicator in the Assistant blinks blue.
2. Click “Update.”
3. Wait for the download to finish.

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4. Click “Update” again and then click “Confirm.”
5. After the update is complete, turn the Thumb Controller off and then on again.
6. Repeat this process with the Ronin-M or the Ronin External Receiver.

⚠
- Ensure your computer is connected to the internet.
- Close all antivirus programs and network firewalls.
- Ensure the device is turned on before beginning the update process.
- Do not disconnect the USB cable until the update is complete.

If the Thumb Controller fails to update, follow the steps below:

1. Press and hold the override button.
2. Use the USB cable to connect the Thumb Controller to the computer.
3. Now, release the override button and wait for the connection to be established.
4. Click the “Update” button after the Thumb Controller has been successfully connected to the DJI PC/MAC Assistant. The Thumb Controller will be operate normally after the update is complete.

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Specifications

Type	RONIN TC
Supported Devices	Ronin, Ronin-M
Operating Frequency	2.415 GHz ~ 2.454 GHz
Working Current	<100 mA @ 3.3 V
Communication Distance	200 ft. (60 m)
Battery Life	18 h
Standby Life	20 h
Operating Temperature	-4˚F to 122˚F (-20˚C ~ 50˚C)
Battery Type	LiPo
Battery Voltage	3.7 V
Battery Capacity	1150 mAh
Charge Time	2 h
Weight	1.75 oz. (50 g)
Size	2.7 × 1.4 × 0.9 in. (68 × 36 × 23 mm)
Mounting Bracket Diameter	1.0 in. or 1.2 in. (25 mm or 30 mm)
Display	White OLED, 0.96 inch, Dots: 128 × 64

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The content is subject to change.

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